Safety Improvement Project

FINAL

Environmental Assessment / Initial Study

State Route 20 at Fort Bragg
Mendocino County
01-MEN-20-KP 0.4/3.9 (PM 0.3/2.4)
EA 01-292000

Caltrans

DEPARTMENT OF TRANSPORTATION
UNITED STATES OF AMERICA

June 2004

General Information About This Document

What's in this document?

This document is a Final Environmental Assessment/Initial Study, which responds to comments given on the Draft Environmental Assessment/Initial Study.

What happens after this?

After comments are received from the public and reviewing agencies, Caltrans may (1) give environmental approval to the proposed project, (2) undertake additional environmental studies, or (3) abandon the project. If the project were given environmental approval and funding were appropriated, Caltrans could design and construct all or part of the project.

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01-Men-KP 0.4/3.9
(PM 0.3/2.4)
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State Route 20 in Mendocino County

ENVIRONMENTAL ASSESSMENT/

INITIAL STUDY
DRAFT

Submitted Pursuant to: (Federal) 42 USC 4332(2)(C)

(State) Division 13, Public Resources Code

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration, and
THE STATE OF CALIFORNIA
Department of Transportation

December 8, 2003
Date of Approval

John D. Webb, Chief
North Region Environmental Services
California Department of Transportation

12/8/03
Date of Approval

Federal Highway Administration
California Division

FEDERAL HIGHWAY ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT
FOR
State Route 20 Safety Improvement Project
01-MEN-20 KP 0.4/3.9 (PM 0.3/2.4)
Mendocino County, California

The Federal Highway Administration (FHWA) has determined that Alternative 2 (community enhancement alternative) will have no significant impact on the human environment. This Finding of No Significant Impact is based on the attached Environmental Assessment (EA), which has been evaluated by the FHWA and determined to adequately and accurately discuss the need, environmental issues and impacts of the proposed project and appropriate mitigation measures. It provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. The FHWA assumes responsibility for the accuracy, scope, and content of the attached EA.

6/17/04
Date

For Gene K. Fong, Division Administrator
Federal Highway Administration
California Division

Title VI Policy Statement

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July 26, 2000

TITLE VI
POLICY STATEMENT

The California State Department of Transportation under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, sex and national origin be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

Jeff Morales

JEFF MORALES
Director

STATE OF CALIFORNIA SCH No. 2003122059
DEPARTMENT OF TRANSPORTATION 01-MEN-20 KP 0.4/3.9 (PM 0.3/2.4)
EA 01-292000

Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to rehabilitate the roadway and provide safety improvements to reduce the number of collisions on State Route (SR) 20 from South Harbor Drive to Gravel Pit Road (KP 0.4 to 3.9 [PM 0.3 to 2.4]) near Fort Bragg in Mendocino County.

Two build alternatives and a "No Build" alternative have been reviewed for this project. Alternative 1 proposes construction of a continuous two-way left-turn lane throughout the length of the project from South Harbor Drive to Gravel Pit Road. Alternative 2 proposes construction of continuous two-way left-turn lanes at the following locations: Old Willits Road to Babcock Lane, Dorffi Road to Noyo Acres Drive, Veronnica Lane to Benson Lane, and Porterfield Lane to Summers Lane. Both build alternatives qualify for safety improvement funding and propose the following improvements:

- Widen shoulder of roadway to 1.2 m (4 ft). If a bike lane is selected with the preferred alternative, the shoulder will be widened to 1.5 m (5 ft).
- Add left-turn lanes and/or pockets
- Overlay the existing pavement with asphalt concrete
- Improve each county and private road intersection
- Improve the roadside drainage system
- Relocate utility poles and underground water line and telephone lines
- Pave private driveway approaches
- Place community welcome signs at both ends of the project

Alternative 2 has been selected as the preferred alternative. Alternative 2 is the community enhancement alternative and incorporates context sensitive design features intended to calm traffic. Residents in and near the project have expressed concerns about the project. Many local residents felt that vehicle speeds on SR 20 are presently too high; they are concerned that the roadway widening for shoulder improvement and left-turn channelization proposed to reduce collisions could, in fact, increase speeds in the project area. Alternative 2 with its typical cross-section that varies between conventional two-lane highway and a two-lane highway with segments of two-way left-turn lane is expected to reduce the potential for increased vehicle speeds. This alternative will also include construction of lanes slightly narrower than standard at 3.35-m (11 ft) through lanes and 1.5-m (5 ft) shoulder with bike lanes as additional traffic calming features. The combination of these context sensitive elements in Alternative 2 would likely result in

lower vehicle speeds and a more livable, walkable community. This alternative effectively addresses the project's safety-related objectives and community concerns, at a cost that is comparable to other alternatives considered.

Determination

An Initial Study has been prepared by the California Department of Transportation (Caltrans). Mitigation measures are outlined in the Initial Study (Section 3.3). On the basis of this study, it is determined that the proposed action will not have a significant effect upon the environment for the following reasons:

- The project will have less than significant effects, with mitigation, on aesthetics, biological resources, community resources, air quality, noise, and population and housing.
- The project will have no effects on agricultural resources, cultural resources, geology and soils, hazardous materials, hydrology and water quality, land use and planning, mineral resources, recreation, Section 4(f) properties and utilities.
- The project will have positive impacts on public services and transportation/traffic.

J D Webb — 2 June 2004

JOHN D. WEBB, Chief — **Date**
North Region Environmental Services
California Department of Transportation

Summary

The California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) propose to widen the roadway and provide safety improvements to reduce the number of collisions on State Route (SR) 20 from South Harbor Drive to Gravel Pit Road (KP 0.4 to 3.9 [PM 0.3 to 2.4]) near Fort Bragg in Mendocino County. This section of SR 20 serves both the greater Fort Bragg community and highway through-traffic. The number of collisions in this section of highway exceeds the average number of collisions on similar highway facilities in California. A significant number of the reported collisions on this route are related to left-turning vehicles and excessive speed.

Two build alternatives and a "No Build" alternative have been evaluated for this project. Both Alternatives 1 and 2 qualify for safety improvement funding and include the following improvements:

- Widen shoulder of roadway to 1.2 m (4 ft). If a bike lane is desired, the shoulder will be widened to 1.5 m (5 ft). This is the minimum width required for a bike lane.
- Add left-turn lanes and/or pockets
- Overlay the existing pavement with asphalt concrete
- Improve each county and private road intersection and pave private driveway approaches
- Improve the roadside drainage system
- Relocate utility poles and underground water line and telephone lines
- Place community welcome signs at both ends of the project

Alternative 1 is a proposal to construct a continuous two-way left-turn lane throughout the length of the project from South Harbor Drive to Gravel Pit Road.

Alternative 2 is a proposal to construct two-way left-turn lanes at the following locations: Old Willits Road to Babcock Lane, Dorffi Road to Noyo Acres Drive, Veronnica Lane to Benson Lane, and Porterfield Lane to Summers Lane. Additionally, Alternative 2 proposes segments of continuous left-turn lanes at closely spaced driveways and intersections where traffic volumes are higher.

In addition, special design features have been proposed for incorporation into either of the proposed alternatives for community enhancement, including gateway signage, and reduced through lane width and widened shoulders if a bike lane is included on each side.

Alternative 2 has been selected as the preferred alternative. Alternative 2 is the community enhancement alternative and incorporates context sensitive design features intended to calm traffic. Residents in and near the project have expressed concerns about the project. Many local residents felt that vehicle speeds on Route 20 are presently too high; they are concerned that the roadway widening for shoulder improvement and left-turn channelization proposed to reduce collisions could, in fact, increase speeds in the project area. Alternative 2 with its typical cross-section that varies between conventional two-lane highway and a two-lane highway with segments of two-way left-turn lane is

expected to reduce the potential for increased vehicle speeds. This alternative will also include construction of lanes slightly narrower than standard at 3.35-m (11-ft) through lanes and 1.5-m (5-ft) shoulder with bike lanes as additional traffic calming features. The combination of these context sensitive elements in Alternative 2 would likely result in lower vehicle speeds and a more livable, walkable community. This alternative effectively addresses the project's safety-related objectives and community concerns, at a cost that is comparable to other alternatives considered.

The "No Build" alternative would not implement any of the improvements included in the project. Routine and necessary maintenance would continue on SR 20, however, operational features would not be improved with the no build alternative. Without plans to address roadway deficiencies, the existing facility would not be upgraded to current highway standards, and safety features would not be enhanced.

Right of way acquisition would be required on both sides of the existing roadway to build either alternative. The proposed project would require 12 m (39.4 ft) of right of way on both sides of the roadway consisting of purchase of property along the highway from private landowners. Alternative 1 and 2 would affect a total of 106 parcels, but will not displace any residences. One temporary displacement may occur on a parcel where it is proposed to move the residence back on the property rather than acquiring the property.

Impacts to federal and state threatened or endangered species shall be minimized or eliminated through use of Environmental Sensitive Area (ESA) fencing as well as construction windows. Permanent impacts to wetlands will be mitigated at a ratio of 1:1.5 under Army Corps of Engineers (ACOE) direction. Temporary impacts to wetlands will be minimized by ESA fencing for the remaining portion of any wetlands and by restoration of work areas upon completion of the project. Additional wetland mitigation/ avoidance requirements may be required by resource agencies during the permitting process.

Impacts to the coast lily, a federal species of concern, will be mitigated through ESA fencing. Areas that cannot be avoided will require transplanting the bulbs and seedlings to the new shoulder on either side of the newly created drainage. Permanent ESA signs will be placed next to transplant areas.

Because the driveways have not been designed yet, it is estimated that 22 driveways would not meet "change in grade" requirements at the proposed property line. Temporary construction easements (TCE) will be required to construct a temporary pavement wedge. In addition, eight TCEs will be required for construction of drainage channels. A contractor's yard/staging area is proposed at the northwest corner of Babcock Lane.

Permits

The proposed project will require a Section 404 Permit from the ACOE, a Coastal Development Permit from Mendocino County, and a Water Quality Certification (Section 401) from the Regional Water Quality Control Board (RWQCB). As more than one acre of soil will be disturbed, compliance with the National Pollution Discharge Elimination System (NPDES) permit and a subsequent Storm Water Pollution Prevention Plan (SWPPP) will also be required.

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- Initial Site Assessment
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- Preliminary Hydraulics Report
- Visual Impact Assessment
- Tree Survey Maps

List of Abbreviated Terms

AADT	Annual average daily traffic
AC	Asphalt Concrete
ACOE	Army Corps of Engineers
ADL	Aerially Deposited Lead
ADT	Average Daily Traffic
APC	Alternative Pipe Culvert
APE	Area of Potential Effect
BLM	Bureau of Land Management
BMP	Best Management Practices
Caltrans	California Department of Transportation
CEQ	Council of Environmental Quality
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CSP	Corrugated Steel Pipe
CSPDD	Corrugated Steel Pipe Down Drain
CDFG	California Department of Fish and Game
CGS	California Geologic Society
CWA	Clean Water Act
DI	Drainage Inlet
DOC	California Department of Conservation
DOT	Department of Transportation
EA	Expenditure Authorization
ESA	Environmentally Sensitive Area
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
ft	foot/feet
ha	hectare
HPSR	Historic Property Survey Report
HRER	Historic Resource Evaluation Report
in	inch
ISA	Initial Site Assessment
km	kilometer(s)
KP	kilometer post
kph	kilometer per hour
m	meter(s)
mi	mile(s)
mm	millimeter
mph	mile per hour
mvm	million vehicle miles
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NOA	Naturally Occurring Asbestos
NPDES	National Pollution Discharge Elimination System
NRHP	National Register of Historic Places
NSO	Northern Spotted Owl
OGAC	Open graded asphalt concrete
OHWM	Ordinary high water mark
OSD	Over-Side Drain
PM	post mile
PPM	Parts Per Million
PRC	California Public Resource Code

PSR	Project Study Report
RTP	Regional Transportation Plan
R/W	Right of Way
RWQCB	Regional Water Quality Control Board
RED	Rock Energy Dissipater
RSP	Rock Slop Protection
SHPO	State Historic Preservation Officer
SI	Safety Index
SOD	Sudden oak death
SR	State Route
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TASAS	Traffic Accident Surveillance and Analysis System
TCE	Temporary Construction Easement
TMP	Traffic Management Plan
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

Chapter 1 Purpose and Need

1.1 Purpose and Need

The proposed project is located on State Route (SR) 20 near the rural community of Fort Bragg, in Mendocino County (Figure 1). This section of SR 20 serves both the greater Fort Bragg community and highway through-traffic from the valley to coastal destinations. The California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) propose to widen a portion of SR 20 from South Harbor Drive to Gravel Pit Road (Figure 2) to provide safety improvements and address non-standard roadway features to enhance s**a**fety and reduce the number of collisions.

SR 20 is one of the vital routes that connect U.S. Highway (US) 101 to SR 1. It is also one of the major routes to the tourist destinations in Mendocino County and the northern California coast. The safety enhancements proposed by this project are intended to mitigate the traffic collision pattern on SR 20.

Traffic has significantly increased from an Annual Average Daily Traffic (AADT) of 3,200 vehicles in 1984 to 5,500 vehicles in 2001. AADT is expected to increase to 9,240 in 2018. The number of collisions in this section of highway exceeds the average number of collisions on similar facilities in California. A significant number of the reported collisions on this route are related to left-turning vehicles and excessive speed.

1.1.1 Safety

The Traffic Collision Analysis completed by the Caltrans Traffic Safety Office in District 1 included a five-year traffic collision history (October 1, 1993, through September 30, 1998), which shows that of the 60 traffic collisions recorded within this highway segment, 29 are attributable to left-turn movements. Nearly 90 percent of these traffic collisions occurred between the hours of 7:00 a.m. and 7:00 p.m., which indicates that most of the traffic collisions were related to conditions during peak traffic periods. The actual total traffic collision rate within this section of SR 20 is 3.30 traffic collisions per million vehicle miles (mvm) traveled; higher than the statewide average of 1.94 traffic collisions per mvm traveled.

Table 1 compares the actual recorded traffic collision rate for SR 20 to similar facilities throughout the state. The number of traffic collisions for this section of SR 20 is higher than the statewide average for this type of highway (CDOT, 1999). The actual fatality rate of 0.112 fatality per mvm traveled is 350 percent of the statewide average of 0.032 fatality per mvm traveled for a similar facility. Based on the five-year collision history in this segment, analysis of the statistics, individual collisions, and previous investigations, a continuous two-way left-turn lane or left-turn pockets and widening may reduce the potential for collisions in the proposed project limits.

Table 1 Collisions per Million Vehicle Miles Traveled (10/01/93-9/30/98)					
Actual			Statewide Average		
Fatalities	Fatalities + Injury	Total	Fatalities	Fatalities + Injury	Total
0.112	1.51	3.30	0.032	0.96	1.94

1.1.2 Traffic

A review of projected 2008 Annual Average Daily Traffic (AADT) data for SR 20 within the project area is 7,040 vehicles with a peak hour volume of 830 vehicles. The projected AADT in 2028 is 11,400 vehicles with a peak hour volume of 1,350 vehicles. The addition of a two-way left-turn lane is consistent with the Caltrans Guidelines for Reconstruction of Intersections. It states that positive effects on traffic operations have been associated with the installation of two-way left-turn lanes on two-lane highway with AADT of between 5,000 and 12,000 and low to moderate left-turn volumes. Left-turn pockets can also mitigate the number of left-turn related traffic collisions and possibly improve traffic operations. Both of the build alternatives include elements of two-way left-turn lanes and/or left-turn pockets.

The 1989 Route 20 Transportation Concept Report rates this segment of highway (MEN - 20-0.0/R33.2) at Level of Service (LOS) E. LOS is a qualitative measure describing operational conditions within a traffic stream or at an intersection, generally described in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience and safety. LOS is designated A through F, from best to worst, and covers the entire range of traffic operations that may occur.

The 1996 update of the Mendocino County Regional Transportation Plan called for the development and/or modification of state highways in rural areas to improve operating characteristics and safety. SR 20 between Fort Bragg and Willits was cited as a particular area of concern.

1.2 Project Background

SR 20 in Mendocino County begins at SR 1 in the City of Fort Bragg and progresses generally easterly to US 101 in the City of Willits. Between Willits and Calpella, both US 101 and SR 20 share the same alignment. At Calpella, SR 20 continues southeasterly across the remainder of Mendocino County and all of Lake County and a portion of Colusa County to Interstate 5. SR 20 continues easterly across the Sacramento Valley and the Sierra Nevada mountain range, terminating at Interstate 80 east of Colfax. SR 20 is a Federal Aid Primary Route and is functionally classified as a Rural Minor Arterial from SR 1 to US 101. The remainder of SR 20 (from US 101 to SR 29 and from Interstate 5 in Lake/Colusa Counties) is functionally classified as a Rural Principal Arterial.

In 1983, area residents made requests to the County of Mendocino for improvements to the section of SR 20 between Trillium Lane and Landmark Grocery, west of Summers Lane (Figure 2). In 1984, a project was initiated to widen that section of the highway; however, funding beyond the project initiation stage was not available.

Within the project limits, SR 20 is a two-lane conventional highway. The functional design speed for most of the highway is 80 kph (50 mph), while a small portion of the eastern end of the project is designed at 89 kph (55 mph). At the eastern end of the project, approximately 1.1 km (0.7 mi) of 3.3 m (11 ft) wide lanes exist. The lane widths at all other locations within the project limits are standard 3.6 m (12 ft) wide.

1.3 Project Description

Caltrans and FHWA propose to improve safety by widening the existing SR 20 between KP 0.4/3.9 (PM 0.3/2.4). Two build alternatives and a "No Build" alternative are being considered. The two build alternatives include widening roadway shoulders, adding left-turn lanes and/or pockets, overlaying the existing pavement with asphalt, improving public and private road intersections, improving the roadway drainage system, relocating utilities, and reconstructing private driveway approaches to meet State standards.

This widening project is a safety improvement and will be funded through the 2002 State Highway Operational and Protective Program (SHOPP) for the 2005/06 fiscal year. The cost was estimated at $8,050,000 for Alternative 1 and $8,150,000 for Alternative 2. It is proposed to begin construction in August 2006.

1.4 Optional Disposal Sites

Surface Mining and Reclamation Act (SMARA) Compliance

The proposed project requires suitable sites for material disposal and storage. A SMARA permit does not pertain to disposal locations and is therefore not required.

It is estimated that 13,000 cubic meters (m^3) (17,000 cubic yards [yd^3]} of clean soil and 1,100 m^3 (1,440 yd^3) of asphalt concrete grindings will be taken to designated disposal sites in the project area. A disposal site has been designated on the north side of SR 20 at Jackson State Forest's old helipad site at approximately KP 4.7 (PM 2.9), just east of the project limits (Figure 3). A secondary disposal site is also designated at Jackson State Forest's Loop Road on the south side of SR20, near Gravel Pit Road at approximately KP 3.7 (PM 2.3) (Figure 4). These disposal sites have been reviewed by Caltrans Environmental and are recommended for the contractor's use. These disposal sites contain no environmental resources, nor are there potential environmental impacts by their use. The following minimization measures shall be in place in order to prevent environmental impacts:

- ESA fencing would be placed around the helipad site at 3.6 m (12 ft) from the roadway hinge point near the creek to toe of dirt slope. ESA fencing would also be

placed at the Loop Road if necessary to prevent impacts to significant tree resources. A Caltrans biologist will be available to assist in the placement of fencing. Please notify Caltrans Environmental at least 10 days prior to work at these disposal locations.

- Two invasive exotic plants, the French broom and Scotch broom (*Genista monspessulana* and *Cytisus scoparius)* have been identified throughout the project site and are considered noxious weeds by the Federal Department of Food and Agriculture (FDFA). Executive Order 13112 requires any federal agency action to combat the introduction or spread of invasive species in the United States. The Contractor shall notify the Engineer, a minimum of 10 days prior to moving material to the disposal site. Prior to removal of material or disturbance to the site, the Engineer will inspect the material for the presence of noxious weeds. Equipment and trucks used to transport soil to disposal sites shall be washed to removed dirt and weeds prior to being transported to the site.
- A Caltrans biologist shall inspect the disposal site locations for migratory bird nests prior to disposal at these locations. The Resident Engineer shall notify biologist at least 30 days prior to said work.
- Tree removal at disposal locations shall be minimized to prevent removal of significant resources. It is not anticipated that tree removal shall occur at the disposal locations; however, if this becomes necessary, tree removal shall occur between August 1 and January 31 to minimize impact to possible nesting birds.
- Neighbors within close proximity to the disposal locations shall be notified at least 10 days in advance prior to work being conducted at either location.

If the contractor uses the designated disposal sites, an agreement will be required between Caltrans and the property owner (CDF) to make the sites available for disposal of clean fill material and asphalt concrete grindings generated from this project. If contractor uses designated disposal sites, asphalt concrete grindings and clean fill material shall be deposited at the helipad site, and any residual clean fill material shall be deposited at the loop road site. If the contractor does not use the designated disposal site, then the contractor shall be responsible for selection and subsequent environmental approval of other disposal sites. Prior to use, the contractor is required to comply with CEQA to provide environmental approval documentation for use of said sites to the Caltrans Office of Environmental Management.

Figure 1 Project Location Map (page 5)

Chapter 2 Project Alternatives

2.1 Project Alternatives

2.1.1 Build Alternatives

Two build alternatives have been developed and evaluated for this project. Both alternatives address the safety movements and meet the minimum Safety Index (SI) required to qualify for safety improvement funding. The Traffic Safety Index is a tool used for evaluating safety benefits of highway improvement projects and is a measure of the accident cost saved by motorists expressed as a percentage of the improvement's capital cost. This accident cost savings, when divided by the cost of the improvement and converted to a percent, is the Traffic Safety Index. Both alternatives propose the following features:

- Widen roadway shoulder to 1.2 m (4 ft). If a bike lane is desired, the shoulder will be widened to 1.5 m (5 ft). This is the minimum width required for a bike lane.
- Add left-turn lanes and/or pockets
- Overlay the existing pavement with asphalt concrete
- Improve each county and private road intersection
- Improve the roadside drainage system
- Relocate utilities
- Pave all private driveway approaches
- Place welcome signs at both ends of the project

Alternative 1 is a proposal to construct a continuous two-way left-turn lane throughout the length of the project from South Harbor Drive to Gravel Pit Road.

Alternative 2 includes construction of continuous two-way left-turn lanes at the following locations: Old Willits Road to Babcock Lane, Dorffi Road to Noyo Acres Drive, Veronnica Lane to Benson Lane, and Porterfield Lane to Summers Lane. Additionally, Alternative 2 proposes segments of continuous left-turn lanes at closely spaced driveways and intersections where traffic volumes are higher.

Special design features can be incorporated into either Alternative for community enhancement, including gateway signage and widened shoulders to provide for bike lanes and footpaths.

Alternative 2 has been selected as the preferred alternative. Alternative 2 is the community enhancement alternative and incorporates context sensitive design features intended to calm traffic. Residents in and near the project have expressed concerns about the project. Many local residents felt that vehicle speeds on SR 20 are presently too high; they are concerned that the roadway widening for shoulder improvement and left-turn channelization proposed to reduce collisions could, in fact, increases speeds in the project area. Alternative 2 with its typical cross-section that varies between conventional two-lane highway and a two-lane highway with segments of two-way left-turn lane is

expected to reduce the potential for increased vehicle speeds. This alternative will also include construction of lanes slightly narrower than standard at 3.35-m (11 ft) through lanes and 1.5-m (5 ft) shoulder with bike lanes as additional traffic calming features. The combination of these context sensitive elements in Alternative 2 would likely result in lower vehicle speeds and a more livable, walkable community. This alternative effectively addresses the project's safety-related objectives and community concerns, at a cost that is comparable to other alternatives considered.

2.1.2 "No Build" Alternative

Routine and necessary maintenance will continue on SR 20, however, operational movements will not be improved. The No Build Alternative does not meet the purpose and need of the project.

2.2 Alternatives Considered and Withdrawn

The Project Study Report (PSR), dated July 2001, identified five alternatives under consideration. The original Alternatives 1 and 2 were withdrawn because the Safety Index could not be met. Subsequently, Alternatives 3, 4, and 5 were renumbered as Alternatives 1, 2, and 3 with Alternative 3 being the No Build Alternative.

2.2.1 Original Alternative 1

The original Alternative 1 included symmetrical widening on both sides of the existing roadway, while maintaining the current roadway alignment. Also included was an addition of a two-way left-turn lane, widening to include three standard 3.6 m (11.8 ft) lanes, widening shoulders to 2.4 m (7.9 ft), improving the drainage system, standardizing eight intersections, and paving private driveways. This alternative did not include correction of horizontal curves and would thus require design exceptions to leave them unchanged. A total of 102 parcels would be affected and 8 dwellings would be displaced, requiring relocation assistance. The safety index (SI) for this alternative is 192, which is below the minimum PSR SI of 230 required to obtain funding for this safety improvement project. The estimated cost of this alternative is $10.3 million.

2.2.2 Original Alternative 2

The original Alternative 2 was similar to Alternative 1. This alternative included widening both sides of the existing roadway and correcting three horizontal curves that do not meet current geometric design standards. This alternative also included the addition of a two-way left-turn lane, widening to 3.6 m (11.8 ft) lanes, widening shoulders to 2.4 m (7.9 ft), improving the drainage system, improving eight intersections, and paving private driveways. A total of 80 parcels would be affected and 14 residences would be displaced, requiring relocation assistance. The SI for this alternative is 178, which is below the minimum PSR SI of 230 required to obtain funding of this safety enhancement project. The estimated cost of this alternative is $11.1 million.

2.3 Other Alternatives

Other build alternatives were studied and withdrawn from further consideration. Among those were combinations and variations on the type of left-turn treatments, locations of the right of way acquisition, and differing project limits. Alternatives were not selected due to factors including physical limitations with installing standard engineering features, program funding constraints, and equity in distribution of right of way acquisition.

2.4 Permits and Agreements Required

The following section outlines permit that are required. Caltrans Environmental Management staff will obtain permits prior to the beginning of construction.

Clean Water Act (33 U. S. C. 1251-1376)

The Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

- **Section 401** requires that an applicant for a Federal license or permit that allows activities resulting in a discharge to Waters of the U. S. must obtain a state certification that the discharge complies with other provisions of CWA. The Regional Water Quality Control Boards administer the certification program in California.

- **Section 404** establishes a permit program administered by ACOE regulating the discharge of dredged or fill material into Waters of the U. S. (including wetlands). Implementing regulations by ACOE are found at 33 CFR Parts 320-330. Guidelines for implementation are referred to as the Section 404 (b)(1) Guidelines and were developed by the U.S. Environmental Protection Agency (USEPA) in conjunction with ACOE (40 CFR Parts 230). The Guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

Coastal Development Permit

A coastal development permit from Mendocino County is required before undertaking any development activity in the Coastal Zone as defined by the Mendocino County Coastal Zoning Code.

National Pollutant Discharge Elimination System (NPDES)

NPDES Permits are required for point source discharges to Waters of the U.S. The USEPA determined that non-point discharges (i.e. urban runoff) also needed to be regulated in accordance with the Clean Water Act. Storm water discharges are considered point source discharges. Caltrans has a Statewide NPDES Permit Order No. 99-06-DWQ, NPDES No. CA 2000003.

Chapter 3 Affected Environment, Environmental Consequences, and Mitigation Measures

3.1 Environmental Checklist

The environmental checklist (Appendix A) identifies physical, biological, social, and economic factors that may be affected by the proposed project. Since this project involves both state and/or federal funds, it is written to comply with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) [NEPA 40 CFR 1506.b, 1508.9 (b), PRC 21083 and 21087]. This checklist is not a NEPA requirement. The words "significant" and "significance" used throughout the checklist and subsequent discussion are related to CEQA, not NEPA, thresholds. It can be seen that having to address significant or potentially significant impacts in joint CEQA/NEPA environmental documents can be confusing especially in those instances where the two laws and implementing regulations have different thresholds of significance.

This document integrates CEQA and NEPA with other laws in order to avoid duplication and reduce delay in the evaluation of proposed actions.

This document describes why the project is being proposed, alternative methods for constructing the project, and the existing environment that could be affected by the project. Any needed CEQA/NEPA discussion is included in this section of the report. Generally, the background studies performed in connection with this project have been referenced for further clarification.

The technical studies prepared for this environmental analysis (listed in the Table of Contents) are available for review at the Caltrans North Region Environmental Management Office at 2389 Gateway Oaks Drive, Suite 100, Sacramento, CA 95833. Please contact Karen McWilliams at 916-274-0631 or karen_mcwilliams@dot.ca.gov for more information.

The following sections provide an environmental evaluation of the potential impacts of the proposed project.

3.2 Environmental Evaluation

3.2.1 Aesthetics

Visual Environment

Within the project area (KP 0.4/3.9 [PM 0.3/2.4]), SR 20 is mostly rural residential with approximately 106 residences and seven businesses adjacent to the highway. Houses and driveways are closer together until Summers Lane where they begin to taper as the highway travels eastward towards the forested Coast Range. SR 20 enters the Jackson

State Forest near PM 2.95. Most of the residential properties are set back from the highway 15.2-30.5 m (50-100 ft) with paved or unimproved driveways connected to the highway. Fences are common along the highway and include chain link, split rail and tall view blocking wooden structures. Commercial activities within the project area include several rhododendron and azalea nurseries, a feed store, a small grocery store and a trailer park near the east end of the project area.

Vegetation coverage ranges from mature native trees and shrubs to landscaped yards with open lawns and patches of native and non-native species. Flowering rhododendrons and azaleas, which are native to the North Coast, are common along the roadside. Most of SR 20 within the project area is forested although there are open areas surrounding houses. Existing vegetation coverage provides at least moderate privacy screening for many of the residences.

Surrounding views within the project area are mostly limited to the foreground as a combination of the relatively flat topography and the adjacent forest block views of the surrounding area. The Coast Range is visible for eastbound travelers in the background near KP 3.7 (PM 2.3) and the Pacific Ocean is visible for westbound travelers from the western project limits near KP 0.8 (PM 0.50). Visibility of the highway from many of the driveways is limited due to the close proximity of roadside vegetation to the highway. Roadside vegetation also blocks mid-distance views of the highway at several curves particularly near the western project limits. The visual character of SR 20 within the project area is residential with some small commercial activity. The surrounding forest provides a natural environment which is high in visual quality however many of the adjacent homes and properties that are moderately maintained and landscaped provide a low to moderate visual quality.

Either alternative will improve the visual experience for the traveling public. The roadway will have a uniform width with improved striping and signage that benefits the driving public during evening hours and inclement weather. Although removal of roadside vegetation and yard appurtenances will decrease the visual quality of the residential landscape, it will improve sight distance for highway through-traffic and local vehicles entering the highway from adjacent driveways and side streets. Widened paved and unpaved shoulders will improve the visibility and safety of bicyclists and pedestrians while providing adequate space for their movement.

Context sensitive design elements such as narrowing lane widths to 3.3 m (11 ft), gateway signage, and wide edge striping will help provide visual cues for traffic calming while providing the corridor with an improved visual identity. Gateway signage may state "Entering Fort Bragg Community PLEASE DRIVE SAFELY" near the western and eastern project limits. Gateway islands may be considered at locations near the western and eastern gateway signs.

Visual Impacts

Alternative 1 (Continuous Left Turn Lane)

Alternative 1 will create low to moderate impacts to the visual quality of SR 20 within the project area. Much of the existing vegetation within 12 m (39.4 ft) of the proposed

centerline will be removed to enhance the sight distance of the traveling public. This alternative will require the removal of approximately 300 to 400 trees within the project area. Impacts will be moderate where existing vegetation is immediately adjacent to the edge of pavement and where tree densities and privacy screening are highest. Impacts will be lower where existing vegetation is farther away from the proposed right of way line and where the residential property is mostly lawn adjacent to the highway. In more forested areas, the remaining vegetation will be at a uniform distance farther from the edge of pavement and residential properties will lose some or all of the privacy screening currently provided. Other impacts may include removal of, or alterations to, existing fences, landscaping, mail boxes, driveways and utility poles. Houses sited close to the edge of the highway will lose functional area of the front yard and the highway will appear closer and wider. Visibility of the roadway from connecting driveways will increase where roadside vegetation and fencing is removed.

Alternative 2 (Context Sensitive Design):

Alternative 2 will create low to moderate impacts to the visual quality of SR 20 within the project area. These impacts will be slightly less than Alternative 1 since vegetation clearing will be 1.8 m (5.9 ft) less where there are no left-turn pockets or two-way left-turn lanes. This equates to 0.3 ha (0.5 ac). Much of the existing vegetation within 12 m (39.4 ft) of the proposed centerline will be removed to enhance the sight distance of the traveling public. This alternative will require the removal of approximately 300 to 400 trees within the project area. Impacts will be moderate where existing vegetation is immediately adjacent to the edge of pavement and where tree densities and privacy screening are highest. Impacts will be lower where existing vegetation is farther away from the proposed right of way line and where the residential property is mostly lawn adjacent to the highway. In more forested areas, the remaining vegetation will be at a uniform distance farther from the edge of pavement and residential properties will lose some or all of the privacy screening currently provided. Other impacts may include removal of, or alterations to, existing fences, landscaping, mail boxes, driveways and utility poles.

Scenic Resources

Although SR 20 has not been designated as a scenic highway, the section of the highway in Mendocino County has been found “eligible” for scenic highway status in the California Scenic Highway System. Improvements to the highway infrastructure should attempt to protect or enhance the visual integrity along the SR 20 corridor.

3.2.2 Agricultural Resources

The proposed project will not impact agricultural resources by converting prime farmland, unique farmland, or farmland of statewide importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. The project will not conflict with existing zoning for agricultural use or Williamson Act contract. The project will not involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use. There is no known farmland of statewide importance within the project limits.

3.2.3 Air Quality

The project is exempt from all emissions analysis as it is in the category included in Table 2 of Title 40, Section 93.126 of the Code of Federal Regulations (safety improvement).

3.2.4 Biological Resources

The project study area is located in the North Coast Range of Mendocino County, with an elevation of 12.2 to 61 m (40 to 200 ft) west to east and is primarily developed, with businesses and residential throughout the project limits. However, the eastern segment of the project to the east of Summers Lane is less developed.

Wetlands and Other Waters of the United States

Wetlands were delineated using the routine on-site determination method outlined in the U.S. Army Corps of Engineers' (ACOE) *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), which outlines a three-parameter approach based on the presence of hydrophytic vegetation, wetland hydrology, and hydric soils. Wetlands within the project area are not within the Coastal Zone and therefore the Coastal Commission definition of wetlands does not apply. The jurisdictional boundaries for other Waters of the U.S. were identified based on the presence of an ordinary high-water mark (OHWM) as defined in 33 Code of Federal Regulations (CFR) 328.3(e). Data were obtained from wetlands, other Waters of the U.S., non-jurisdictional aquatic features, and adjacent upland habitats to delineate the jurisdictional boundary between wetlands and uplands. Most irrigation and drainage ditches were evaluated to determine whether they meet the Manual's wetland criteria and to assist in determining whether they are considered jurisdictional wetland drainage-ways or non-jurisdictional agricultural ditches.

The wetland delineation forms for the proposed action (Natural Environment Study [NES], Appendix D) contain the information used to delineate Waters of the U.S., including wetlands. In addition, all seasonal wetlands were examined for the presence of special-status plants with potential to occur in the study area. A list of plant species observed within the entire project area is contained in the NES, Appendix E.

Three freshwater, seasonal wetland systems have been positively identified within the project boundaries. The wetland systems were identified at Summers Lane (KP3.31 [PM 2.06]), Pine Tree Lane (KP 2.3 [PM 1.43]), and another just east of Noyo Acres Drive (NES, Appendix F). The Summers and Pine Tree Lane wetlands are of poor quality, however they are considered jurisdictional wetlands as defined by the ACOE and the Clean Water Act. The project will have a total of 730 m^2 (7857 ft^2) of temporary wetland impacts and 302 m^2 (3250 ft^2) of permanent wetland impacts.

The wetland at the northwest corner of Pine Tree Lane and SR 20 (NES, Appendix G) may be minimally impacted by the intersection correction proposed there. This wetland is approximately 188 m^2 (2023 ft^2) and the jurisdictional drainage along SR 20 is approximately 20 m^2 (215 ft^2). Surveys were conducted in April, May and June of 2003 to ascertain the presence of any listed species. None were found. In addition, most of the large tree species within the Pine Tree Lane wetland have been cut down, and the wetland itself has been degraded by human disturbance. Impacts to this wetland will be minimal

and are expected to be less than 467 m^2 [5027 ft^2] permanent and 367.4 m^2 [3955 ft^2] temporary impacts.

The wetland at the northeast corner of Summers Lane and SR 20 (NES, Appendix H) will be minimally impacted as a result of the proposed intersection correction. The wetland is approximately 0.5-2.5 m (1.6-8.2 ft) in width and 12 m (39.4 ft) in length. When delineated in April, the wetland had ponded water over 1 m (3.3 ft) deep. The site was visited again in June and the area was almost dry. Little vegetation occurs in or around this wetland, and the soils are very clayey. Surveys were conducted to ascertain the presence of any listed species within the wetland, and none were found. Impacts to the wetland on Summers Lane will be minimal and are expected to be less than 81.0 m^2 (871 ft^2) permanent and 359.6 m^2 (3871 ft^2) temporary impacts.

The wetland to the east of Noyo Acres Drive (KP 2.0, PM 1.24) (NES, Appendix I) may be minimally impacted as a result of the proposed road widening. The wetland appears to be an overflow connected to a seasonal drainage that runs across SR 20 before dissipating. Vegetation in and around this wetland consists of velvet grass, California blackberry, willows, and various other wetland indicator species. Impacts are expected to be minimal to the wetland at this location (674.8 m^2 [7263 ft^2] permanent impacts).

Other Drainages

Under Sections 1601 and 1603 of the California Fish and Game Code, Caltrans and other agencies are required to notify California Department of Fish and Game (CDFG) prior to any project that would divert, obstruct or change the natural flow, bed, channel, or bank of any river, stream, or lake. Preliminary notification and project review generally occurs during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFG is required to propose reasonable project changes to protect the resource. These modifications are formalized in a Streambed Alteration Agreement that becomes part of the plans, specifications, and bid documents for the project.

Several drainages occur within the boundaries of this project. While these drainages may meet the definition of Waters of the U.S with a supporting bed and bank they do not have a connection point with a live waterway either up or down stream from the road. The drainages only hold water immediately following long periods of rain. These drainages were discussed with CDFG (Botti, pers. comm., 2003) and it was agreed that the drainages did not meet all of the criteria needed to identify these as streams, and therefore, they would not need Streambed Alteration Permits.

Vegetation

There are several habitat types adjacent to the project area, including closed-cone pine/cypress, redwood, upland redwood, urban-developed, and seasonal wetland. Vegetation in the developed areas of the project is composed primarily of landscape and horticultural varieties with Monterey Pine (*Pinus radiata*) and Monterey cypress (*Cupressus macrocarpa*). French broom (*Genista monspessulana*), an invasive exotic species, along with ruderal vegetation is commonly found along the roadside. There are several roadside ditches vegetated with hydrophytic species such as Juncus spp., Carex

spp., and willow (*Salix* spp.). Native vegetation is found in patches throughout the developed areas and in a relatively undeveloped area north of SR 20 near Summers Lane. These areas are primarily closed-cone forest consisting of bishop pine (*Pinus muricata*), shore pine (Pinus contorta), tanbark oak (*Lithocarpus densiflora*), California rose bay (*Rhododendron macrophyllum*), with an understory that includes salal (*Gaultheria shallon*) and sword fern (*Polystichum munitum*).

Caltrans biologists surveyed the project area several times during the blooming season for various plant species identified to possibly occur within the area. In addition to general habitat and plant surveys, special emphasis was placed on special status species, the coast lily-federal species of concern and California Native Plant Society (CNPS) list 1B (*Lilium maritimum*), swamp harebell-federal species of concern (*Campanula californica)* and California sedge-CNPS list 2 (*Carex californica*). The coast lily and pygmy cypress were observed within the project area.

Sphagnum bog

Sphagnum, the principal constituent of peat, typically grows as a floating mat on freshwater bogs. Their leaf like appendages have many large cells with circular openings that enable them to absorb liquids readily; hence they are commercially important as a soil structure enhancer (or component of potting soils), packing material, and absorbent dressings and for other uses.

The Summers Lane Bog, a historical sphagnum bog, is located to the north of SR 20 near Summers Lane. While the Summers Lane Bog is identified as a significant natural area in the California Natural Diversity Database (CNDDB), none of the habitat has been identified in the portion of Summers Lane that exists within the project boundaries. A wetland was identified on the corner of Summers Lane and SR 20 that does not meet the characteristics of a sphagnum bog.

Coast lily *(Lilium maritimum*)

The coast lily is a perennial herb (bulb) that is a California native endemic. It is ranked by the CNPS as very rare and is a Federal species of concern. It is found in the following plant communities: Coastal Prairie, Mixed Evergreen Forest, Northern Coastal Scrub, Closed-cone Pine Forest, North Coastal Coniferous Forest, and usually occurs in wetlands, but is occasionally found in non-wetlands.

Botanical surveys were performed to identify plant species and potential habitat within the study area for special-status plant species. On June 12th, coast lilies were identified within the project limits on existing and proposed right of way in six locations. The coast lilies were noted on the project plans (NES, Appendix F). Measures are being taken to provide adequate mitigation within the proposed right of way for the lily. Informal discussion took place with the Arcata U.S. Fish and Wildlife Service (USFWS) (Golec, pers. comm., 2003) and the CDFG (Botti, pers. comm., 2003).

Pygmy Cypress (*Cupressus goveniana pigmea*)

The pygmy cypress (*Cupressus goveniana pigmea*), a federal species of concern and CNPS List 1B (rare) species, is a gymnosperm and a California native endemic. It is found in a closed-cone plant community. During field surveys, species of pygmy cypress

were identified. However, the cypress identified did not meet the typical characteristics of pygmy cypress, nor were the trees part of a pygmy cypress forest. The "pygmy" cypress within the project limits are not stunted due in part to the rich soils of the area, and the heights range from 7.6-18.3 m (25-60 ft). Informal discussions were held with USFWS (Imper, pers. comm., 2003) regarding the possibility of impacts to the (non-pygmy) pygmy cypress. It was concluded that this species of pygmy cypress is protected more as a forest series and not as an individual species. Because the cypress within the project boundaries is not part of a pygmy cypress forest and because the cypress are not characteristic of typical "pygmy" cypress, no further action is warranted.

Wildlife

Special status species and their habitats were surveyed for within the project area. These species were selected for analysis based on information from CDFG, USFWS, and field surveys conducted for the proposed action. The listing status, preferred habitat, and potential to occur in the project area are listed in the NES, Appendix B. The following special status species and protected animal species were identified as having the potential to occur in the project area.

Northern Spotted Owl (*Strix occidentalis caurina*)

The northern spotted owl (NSO) was listed as a federally threatened species on June 26, 1990 (55 FR 26114). The NSO is one of three recognized subspecies of spotted owls: the California spotted owl (*S. o. occidentalis*), the NSO (S. *o. caurina*), and the Mexican spotted owl (*S. o. lucida*). The current range of the NSO is from southwest British Columbia, western Oregon and northern California south to San Francisco Bay. Inland, the geographical separation between the northern and California subspecies occurs over a 19.3 to 24.1 km (12 to 15 mi) wide gap of forested habitat between southeastern Shasta and northwestern Lassen National Forests. The Pit River is generally considered the boundary between the two subspecies.

NSOs generally have large home ranges and use large tracts of land containing significant acreage of older forest to meet their biological needs. NSO habitat consists of four components: (1) nesting, (2) roosting, (3) foraging, and (4) dispersal. The attributes of superior nesting and roosting habitat typically include a moderate to high canopy closure (60 to 80 percent closure); a multi-layered, multi-species canopy with large overstory trees; a high incidence of large trees with various deformities (e.g., large cavities, broken tops, mistletoe infections, and debris accumulations); large accumulations of fallen trees and other debris; and sufficient open space below the canopy for owls to fly.

Informal consultation with USFWS (Hoffman and Bosch, pers. comm., 2003) determined that this project would have no effects to the NSO.

Marbled Murrelet (*Brachyramphus marmoratus marmoratus*)

The marbled murrelet is federally listed as a threatened species. The North America subspecies ranges from the Aleutian Archipelago in Alaska eastward to Cook Inlet, Kodiak Island, Kenai Peninsula, and Prince William Sound, south along the coast through the Alexander Archipelago of Alaska, British Columbia, Washington, and Oregon to central California.

Marbled murrelets spend most of their lives in the marine environment where they feed primarily on small fish and invertebrates in near-shore marine waters. They forage by pursuit diving in waters generally up to 80 m (262.5 ft) deep and 0.3 to 2 km (0.19-1.2 mi) offshore. Nesting occurs inland, typically in large-diameter old-growth trees in low-elevation forests with multi-layered canopies. They appear to be solitary in their nesting habitats but are frequently detected in groups in the forest.

Informal consultation with USFWS concluded that the project would not affect the Marbled Murrelet or its habitat (Hoffman and Bosch, pers. comm., 2003).

Red Tree Vole (*Arborimus pomo*)

The California red tree vole is a California Species of Special Concern, and a federal Species of Concern. They are found along the Pacific coastal lowlands in Oregon and Northern California. In California, they range from the Oregon border southward to Sonoma County along the coast, and in the coastal mountain ranges southward to about Mt. Sanhedrin, Mendocino County.

Red tree voles live only in coastal coniferous forests consisting of Douglas fir, grand fir, western hemlock, and/or Sitka spruce, and may also inhabit western hemlock trees. Although many of the factors determining the occurrence of red tree voles are not known, these animals probably require fairly dense, mature stands of conifer forest composed of at least some Douglas fir or grand fir. Clear-cuts, forest fires, and other factors that create openings in the forest and isolate blocks of trees are detrimental to red tree voles.

Visual inspection was made for red tree vole nests in trees of appropriate size and species. Douglas firs were not identified within the project boundaries and no red tree vole nests were observed. There are no CNDDB occurrences of red tree voles within the Fort Bragg USGS quadrangles and it is unlikely that this project will have any effect on this species or its habitat.

3.2.5 Community Impacts (Social, Economic) and Environmental Justice

Community Character

The City of Fort Bragg is located approximately 241 km (150 mi) north of San Francisco on the beautiful coast of Mendocino County. Fort Bragg, the "Capital of the Coast" on scenic SR 1, is a working community of 6,500 and serves a retail area of 25,000 coast residents. Fort Bragg, had its beginnings as a military post that was short-lived (1857-1867). Fort Bragg began to develop in 1885 when a lumber company was established on the site of the old fort. The 115-year-old sawmill, historically the basis of the city's economy, closed in 2003. It was one of the oldest operating sawmills in the nation.

The climate of Fort Bragg is moderate, with warm summers and mild and wet winters. Average annual rainfall in the area is approximately 1.02 m (40 in) with the majority falling from November through April. Average daily high and low temperatures range from 12.8/4.4°C (55/40°F) during winter and 18.3/12.8°C (65/50°F) during summer.

Residents in and near the project area live in a rural setting along SR 20 and consider themselves a part of the community of Fort Bragg. They have expressed concerns about the proposed project. The safety issues that the project seeks to address include collisions

and excess speeds. Many local residents feel that the vehicle speeds on SR 20 are presently too high. They are concerned that many of the measures proposed to reduce collisions could, in fact, increase speeds in the project area. Each of the proposed alternatives would increase the roadway width and include two 3.6 m (12 ft) lanes, a 3.6 m (12 ft) two-way left-turn lane, and 1.2 to 1.5 m (4 to 5 ft) shoulders through much of the project area. A 1.5 m (4 ft) shoulder will be included if a bike lane is added. In order to offset potential safety concerns, Caltrans has developed community enhancement strategies to promote context sensitive solutions, such as gateway signage, reduced lane widths, widened edge line striping, and widened shoulders to provide for bike lanes and footpaths. Except for gateway islands, all of these design features will be included in the final selected alternative. Gateway islands may only be used in Alternative 2.

The proposed project is located in Census Tract 103, Block Group 1. In this block group, the median household income is only slightly lower than in Mendocino County as a whole. The poverty rate is 11 percent, which is the lowest in the area (countywide it's 16 percent, in Fort Bragg it's 20 percent, and in the adjacent block groups the poverty rate ranges from 15 to 24 percent). Racially, the area is 93 percent Caucasian, which is a high percentage for California and an even higher percentage for Mendocino County (Countywide, 81 percent of the population is white). Nine percent of the area is of Hispanic ethnicity, which is low for the County of Mendocino and the State, and also lower than in Fort Bragg.

Environmental Justice

The project has been developed in accordance with the Civil Rights Act of 1964, as amended, and Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.” The Executive Order requires each federal agency (or its designee) to take the appropriate and necessary steps to identify and address “disproportionately high and adverse” affects of federal projects on minority and low-income populations.

The project has been evaluated to determine any conflicts with environmental justice, as outlined in Executive Order 12898 and FHWA Directive 6650.23. Based on this review, the project would not result in any disproportionately high and/or adverse human health or environmental effects on minority or low-income populations. The proposed roadway improvements would benefit all corridor residents, including minority or low-income populations by improving safety.

3.2.6 Cultural Resources

The project’s Area of Potential Effect (APE) was established in consultation with FHWA (see Historic Property Survey Report [HPSR], Attachment 1: Exhibits 3.1 to 3.10). The delineation of the archaeological APE is intended to encompass the maximum limit of any potential physical disturbances that may result from the construction activities associated with the proposed project, including temporary construction easements, equipment parking/staging areas, utility relocations, tree felling activities, and all proposed new right of way. The APE for historic architecture studies includes most of the parcels with frontage on either side of SR 20 from which right of way acquisitions will be made (HPSR, Attachment 1: Exhibits 3.1 to 3.10).

No archaeological resources were identified within the limits of the project's APE. No architectural properties within the architectural APE were previously listed or determined eligible as historic properties (Historic Resource Evaluation Report [HRER]). Sixty buildings within the architectural APE have been evaluated in accordance with the Caltrans *Interim Policy for the Treatment of Buildings Constructed in 1957 or Later*, established in agreement with the California State Historic Preservation Officer (SHPO) in June 2002. Andrew Hope, who meets the Secretary of the Interior's Professional Qualifications Standards as an architectural historian, has determined that these buildings within the APE appear to post-date 1957 and, therefore, do not require further study.

Additional cultural resource studies will be required if project plans change to include areas not encompassed within the existing APE. Should any buried cultural materials be encountered during construction, it is Caltrans policy (*Environmental Handbook, Volume II, Chapter 1*) to cease all work in the location of the find until a qualified archaeologist can evaluate the nature and significance of the materials.

3.2.7 Geology/Soils

According to the California Geological Survey (CGS) *Geologic Map of California, Ukiah Sheet*, (1960), the project is in an area mapped as Quaternary aged marine terrace deposits unconformably overlying undivided Cretaceous marine deposits. In addition, CGS "North Coast Watershed Mapping", 1999 geologic and geomorphic maps of the Fort Bragg Quadrangle were reviewed. The project area is located within Quaternary aged marine terrace deposits of the Lower Caspar Orchard and Caspar Railroad Formations. The presence of landslides or flows has not been mapped within the proposed project area.

The CGS Map of California Showing Principal Asbestos Deposits, 2000 and the Caltrans "Asbestos Location Map, District 1", 2001, was reviewed. The site is not in an area of naturally occurring asbestos. In addition, the presence of serpentine or ultra-mafic rock was not observed in the project limits.

The Caltrans California Seismic Hazard Map dated 1996 was reviewed. The project is not located within an Alquist-Priolo Fault Zone; however, it is located within a seismically active area. The nearest mapped active fault to the site is the San Andreas Fault which is located approximately 14 km (8.7 mi) west of the site. Rupture of the San Andreas Fault in the local area could lead to a ground acceleration of 0.5g (gravity) in bedrock within the project limits. However, since the project is proposing improvements to an existing highway, the project would not increase the potential risk of loss, injury or death.

Since the project is located in a seismically active area, there is the potential for rupture of the highway. However, since the project is proposing improvements to an existing facility, the proposed project would not increase the potential risk of loss, injury or death. Based on the dense nature of the surface soils observed in the project limits, the potential for liquefaction is low.

The soils in this vicinity are identified by the National Resource Conservation Service (www.ca.nrcs.usda.gov Mendocino County Western part) as Caspar sandy loam with 2 to 9 percent slopes. They are very deep, well drained soils on marine terraces and formed in marine sediments. Permeability is moderately slow, with an available water capacity

moderate or high. Elevation ranges from 61-122 m (200-400 ft). The average annual precipitation is 1.02-1.65 m (40-65 in) and the annual temperature is about 11.7°C (53°F). This soil unit is used primarily for home site development or timber production.

Due to the flat lying nature of the topography within and adjacent to the project limits, the potential for landslides is extremely low. No dewatering is planned for the project, which would lead to potential ground subsidence. Based on the minimal slope heights and slope ratios proposed for cuts and fills for this project the potential for collapse and/or lateral spreading is low.

No structures are proposed for this portion of the project. No waste producing facilities are proposed for this portion of the project.

3.2.8 Hazardous Materials

The Initial Site Assessment, completed on June 10, 2003, determined that no existing or proposed right of way is listed on the current Hazardous Waste and Substances Site List. A search of hazardous waste databases was completed in the vicinity of the project.

Alternatives 1 and 2 would require use of a portion of the Landmark Grocery property at 31070 SR 20, Fort Bragg. Two underground gasoline tanks and one underground diesel tank were removed from this location. There is a moderate to high chance of soil and groundwater contamination issues at this site resulting from the use of the underground tanks. The Regional Water Quality Control Board (RWQCB) names the property owner as "responsible party" for contamination from the underground storage tanks that have been removed. Landmark Grocery has assumed hazardous waste clean-up responsibility, and has already removed their underground storage tanks to comply with the RWQCB. The contamination remains as a cause for further investigation by the property owner and monitoring wells have been installed, with the RWQCB order for quarterly reports. No Caltrans site investigation is recommended for the Landmark Grocery location. The site will be adequately characterized by the responsible party through RWQCB order.

An avoidance alternative is not required because the property owner has taken responsibility for the tanks and has already removed them. In addition, the current property owner is fulfilling RWQCB requests, paid for by the Underground Storage Tank Cleanup Fund.

Furthermore, the shallow excavation Caltrans proposes would probably not encounter contaminated soil and water during the highway construction. The owner's January 11, 2003, summary report of investigations indicated a depth of contamination of 3 m (10 ft) for soil and water. However, the ISA recommends inclusion of $20,000 supplemental funds for excavation, removal, and disposal of contaminated soil and water in the event any is encountered.

Aerial deposited lead (ADL) within site soils is not considered an issue.

3.2.9 Hydrology and Water Quality

According to the Federal Emergency Management Agency's (FEMA) Floodplain Insurance Rate map 060183540C, the project area does not encroach on the 100-year floodplain. In addition, FEMA's Flood Insurance Study for Mendocino County

Unincorporated Areas (1992) indicates the three culverts to be replaced are located in a Zone C category (area of minimal flooding). The area maintenance superintendent indicated that there were no flooding problems within the project limit. Preliminary hydraulic calculations for the three proposed culverts meet or exceed design standards for the 10-year and 100-year events.

In general, runoff is carried via roadside ditches on each side of the roadway. There are several private driveways that cross the roadside ditch and each private drive has a separate culvert as it crosses the ditch. Runoff is eventually carried through the ditches to one of three existing culverts and then on to the natural drainage course.

Each alternative for this project involves widening on one or both sides of the roadway. Recommendations are to replace each drainage structure mentioned above with 600 mm (24 in) alternative pipe culverts (APC) extended to the new roadway width. Additionally, the roadside ditch will remain at its current position. All private drive culverts affected by the widening will be replaced as well.

If it is determined that additional cross culverts are needed, the minimum diameter of pipe for new installations is 600 mm (24 in) regardless of flow characteristics. The project engineer will determine inlet and outlet treatment for all locations and calculate drainage quantities in order to establish capacity needed at each location within the project.

The proposed project will require a Section 404 Permit from the ACOE, a Coastal Development Permit from Mendocino County, and a Water Quality Certification (Section 401) from the Regional Water Quality Control Board (RWQCB). As more than one acre of soil will be disturbed, compliance with the National Pollution Discharge Elimination System (NPDES) permit and a subsequent Storm Water Pollution Prevention Plan (SWPPP) will also be required.

3.2.10 Land Use Planning

The project is consistent with the Mendocino County General Plan and does not conflict with any habitat conservation plan or natural community conservation plan. The project is listed as a high priority project in the 2003 Regional Transportation Plan (RTP). Three highway corridors have emerged that are of interregional, as well as regional, significance to Mendocino County. One such corridor is the SR 20 corridor that provides an essential link to the coastal areas for summer recreational travel and is an important goods movement route connecting the US 101 corridor with the I-5 Freeway in the upper central valley.

The City of Fort Bragg is located within Mendocino County, about 241 km (150 mi) north of San Francisco. Primary access to the City is via SR 1 and 20. Fort Bragg encompasses 7 km^2 (2.7 mi^2) and has a population of approximately 7,100 (2000 Census). The unincorporated areas surrounding Fort Bragg consist of a mix of rural residential land uses (mostly single family residences on 0.2 to 2 ha [0.5 to 5 ac] lots) along with scattered commercial operations, primarily local service, highway commercial or tourist-related businesses.

South of Fort Bragg, the Coastal Zone extends inland from SR 1 0.8 km (0.5 mi). The project is within the coastal zone. Caltrans has had early consultation with Mendocino County regarding coastal permits and a Coastal Development Permit will be obtained prior to construction.

3.2.11 Mineral Resources

The project would not result in the loss of availability of any known or locally important mineral resource that would be of value to the region and the residents of the state.

3.2.12 Noise

This project is not interpreted as a Type I project as defined by Caltrans' Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects. Type I is defined by 23 CFR 772 as follows: A proposed Federal or Federal-aid highway project for the construction of a highway which significantly changes either the horizontal or vertical alignment, or increases the number of through-traffic lanes. The project will not increase capacity or move traffic significantly closer to sensitive receptors, therefore the project would not have a noise impact, although existing noise levels may be slightly elevated.

3.2.13 Population and Housing

The project would not induce substantial population growth nor would it displace substantial numbers of existing housing or people. The project will have less than significant impacts with mitigation on population and housing. Alternative 1 and 2 will affect a total of 106 parcels. It is anticipated that no dwellings or residences will be permanently displaced, however, a temporary displacement may occur on one property where it is proposed to move the residence back on the property rather than acquiring the parcel.

Caltrans' Relocation Assistance Program, required by Federal and state law, provides each displaced resident with help in finding replacement housing. Payments include moving expenses and payments to enable displaced residents to obtain comparable decent, safe, and sanitary housing within their financial means. No residential occupant will be displaced unless replacement housing is available. If mobile homes cannot be relocated at the time of displacement, due to age and condition, the occupants may be eligible for assistance in purchasing either a new mobile home or a conventional single-family residence. With respect to those residential properties involving a partial acquisition, owners of property appraised as having an uneconomic remnant may request relocation assistance.

The relocations will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and Title VI of the Civil Rights Act of 1964. Title VI prohibits discrimination based on race, color, religion, sex, disabilities, age and national origin in providing services and benefits on Federally assisted projects. The Department's Relocation Assistance Advisory Service can be found in Appendix B.

3.2.14 Public Services

In Mendocino County, fire protection is provided by 21 fire districts and volunteer organizations, the California Department of Forestry, and the U.S. Forest Service. The fire rating for Fort Bragg area is six. This is based on a measure of the level of service available in various areas of the county, one indicating the highest level of protection and ten indicating the lowest. The U.S. Forest Service is responsible for protecting the National Forest, whereas the California Department of Forestry has responsibility for wildfires in the remainder of the county not covered by the U.S. Forest Service.

The Mendocino County Sheriff's Department and the California Highway Patrol provide service and protection to the area outside the Fort Bragg's city limits within the project area. Mendocino County Transit Authority has services from Fort Bragg to Willits and Ukiah daily.

There are no schools or parks located within the project limits.

Emergency and transit services' response time would likely improve within the project area due to the improved safety measures proposed by the project.

3.2.15 Recreation

The project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

3.2.16 Section 4(f)

The project will not result in the use of any publicly owned land from a park, recreation area, or wildlife and waterfowl refuge; the project will not affect an archaeological or historic site, structure, object, or building or involve constructive use as defined by Section 4(f) (23 CFR 771.135).

3.2.17 Traffic Transportation/Pedestrian and Bicycle facilities

The project involves the addition of a two-way left-turn lane and/or pockets, widening roadway shoulders, improving public and private road intersections, improving existing drainage system and highway. Pedestrian and bicycle facilities (bike lane designation) for non-motorized traffic will be included in the preferred alternative.

Construction Impacts

An updated Transportation Management Plan (TMP) Data Sheet was completed for this project on June 12, 2003. Significant traffic impacts are not anticipated. One-way traffic control will be used for much of the project.

Construction of this widening improvement will not require major staging. No temporary railing is anticipated to channelize traffic. One lane of traffic will be closed during certain operations of work. Standard Plan T13 "Traffic Control System for Lane Closure on Two Lane Conventional Highways" will be utilized. Standard Plan T13 typically includes the use of advance warning signs to slow traffic down in construction zones and the use of cones or barricades to separate work zones from the flow of traffic. Vehicles may be

guided through the area of one-way traffic by a pilot car. In addition, emergency vehicles will be guided through the construction zone as quickly and safely as possible.

A Preliminary Construction Project Schedule has been prepared. Two hundred working days should be sufficient time for the contractor to complete the project. The schedule does not account for winter suspension between construction seasons. Most of the work scheduled in November and December of 2007, and January 2008 can be postponed to the second construction season without impacts to the environment or schedule.

Because the driveways have not been designed yet, it is estimated that 22 driveways will not meet "change in grade" requirements at the proposed property line. Temporary Construction Easements (TCE) will be required to construct a temporary pavement wedge. In addition, eight TCEs will be required for drainage. The total area required is 174 m^2 (1,873 ft^2). Caltrans will notify property owners prior to any work on driveways. Caltrans will do everything possible to minimize impacts to adjacent residents and businesses during construction.

A contractor's yard/staging area is proposed and located at the northwest corner of Babcock Lane.

The proposed project may result in the generation of short-term construction-related air emissions, including fugitive dust and exhaust emissions from construction equipment. Fugitive dust, sometimes referred to as windblown dust or PM_{10}, would be the primary short-term construction impact, which may be generated during excavation, grading and hauling activities. However, both fugitive dust and construction equipment exhaust emissions would be temporary and transitory in nature. In order to minimize the temporary construction-related emission impacts, the contractor will be required to use Best Management Practices and comply with Caltrans Standard Specifications which includes Section 7-1.01F, "Air Pollution Control" and Section 10, "Dust Control."

During the construction phases of the proposed project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction noise is regulated by Caltrans' standard specifications Section 7-1.01I, "Sound Control Requirements". These requirements state that noise levels generated during construction shall comply with applicable local, state, and federal regulations, and that all equipment shall be fitted with adequate mufflers according to the manufacturers' specifications.

3.2.18 Utilities/Emergency Services

Utilities within the project area consist of PG&E, Pacific Bell, City of Fort Bragg Water and Sewer Department, and Century Communications Cable TV. Utilities will have to be relocated in order to accommodate the new right of way. Caltrans is currently working with the identified utility companies to determine which utilities may be relocated either vertically and/or horizontally. The following utilities have been identified to be relocated within Caltrans proposed right-of-way:

- Underground telephone: throughout the north side of SR 20.
- Underground 33 mm (1.3 in) water line: Along the north side of SR 20.

- Utility poles (overhead utilities on poles): On the north and south side of the SR 20.

Existing service will not be adversely affected by the proposed project. During construction, a traffic management plan will be implemented. Caltrans will notify fire, law enforcement, and emergency medical services of the construction schedule and of any planned or potential detours or lane closures.

The project will not exceed wastewater treatment requirements or require the construction of new water or wastewater facilities or expansion of existing facilities.

The project will not result in the construction of new stormwater drainage facilities. However, driveway culvert sizes will be increased to 450 mm (18 in) and the overall ditch capacities will be increased. These improvements have the potential to create water velocities that exceed scour velocities for the type of soils present, especially in the steeper areas. This impact would be offset by placing rock slope protection blankets and check damns in these areas to minimize the effects of scour.

3.2.19 Cumulative Impacts

The Council on Environmental Quality (CEQ) guidance defines cumulative effects as "the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions" (40 CFR § 1508.7). Environmental cumulative effects occur when the environment does not have enough time to recover to its original condition before another outside action takes place to affect the environment.

Cumulative effects analysis necessarily involves uncertainties and assumptions, but useful information can be presented now to facilitate better decision making. To the extent possible, information from past, present, and reasonably foreseeable projects was obtained to help evaluate the cumulative impacts in the area. In addition, quantitative information was obtained where possible.

A small number of highway improvement projects are proposed within the general project area and address existing congestion and safety concerns while providing for inter-regional transportation needs. These improvements may facilitate planned development in some areas, but are not expected to accelerate conversion of agricultural and other open space lands to developed uses except where this conversion is already occurring and planned for. Rather, the proposed road improvements are needed to keep pace with local and regional development conditions and prevent further deterioration of service levels and safety. The following paragraphs discuss projects that are in construction or are planned for construction in the near future. These projects are included in this discussion because they are in close proximity to the proposed SR 20 project.

1) Mendocino County, SR 1 Postmile 50.0/60.7
   Noyo River Bridge Seismic Replacement Project
   This project is currently in construction.
   Anticipated construction completion: 11/05

The existing Noyo River Bridge is being replaced with a 4-Lane structure constructed to current seismic code requirements. The bridge replacement should be completed before the proposed SR 20 project is constructed, therefore, no construction impacts are anticipated. Potential environmental impacts of the bridge replacement were avoided by minimization and mitigation measures.

2) Mendocino County, SR 20 Postmile 6.5/13.6
Passing Lane Project
A Project Study Report (PSR) is currently being prepared for this project and is scheduled for completion February 2004.

The project is to construct a new passing lane where feasible. Potential environmental impacts are unknown at this time. There should be no cumulative construction impacts associated with this project

3.3 Mitigation Measures/Commitments

3.3.1 Mitigation Measures

Air Quality

The proposed project may result in the generation of short-term construction-related air emissions, including fugitive dust and exhaust emissions from construction equipment. Fugitive dust, sometimes referred to as windblown dust or PM_{10}, would be the primary short-term construction impact, which may be generated during excavation, grading and hauling activities. However, both fugitive dust and construction equipment exhaust emissions would be temporary and transitory in nature. In order to minimize the temporary construction-related emission impacts, the contractor will be required to use Best Management Practices and comply with Caltrans Standard Specifications which includes Section 7-1.01F, "Air Pollution Control" and Section 10, "Dust Control."

Wetland Mitigation Measures

Executive Order 11990 establishes a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. The U. S. Department of Transportation (DOT) promulgated DOT Order 5660.1A in 1978 to comply with this direction. On Federally funded projects, impacts to wetlands must be identified in the environmental document. Alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize harm must be included.

The three wetland systems within the proposed project vicinity that may be impacted will be fenced outside of the cut and fill lines with ESA fencing in order to avoid additional impacts. Hydrologic components will be maintained during construction to avoid the possibility of draining the wetlands thus creating greater future impacts. At all sites, a dirt berm shall be placed and maintained between the wetland and construction to avoid drainage. If possible, the berm should be left in place permanently after construction to maintain wetland hydrology.

Two jurisdictional wetlands occur within the project vicinity at Pine Tree and Summers Lane. Another wetland is located near KP 2.0 (P.M 1.24) east of Noyo Acres Drive. The impact to wetlands is expected to be minimal, totaling 0.2 ha (less than 0.5 ac). Wetlands in the form of drainages will be re-created by the creation of a new drainage system. If re-creation of wetland on site or avoidance at either location is not possible, 1:1.5 mitigation will be sought to replace the impacts to the freshwater seasonal wetlands at a Caltrans established mitigation bank, such as the Cleone mitigation bank, located approximately 3.2 km (2 mi) north of the town of Fort Bragg and adjacent to McKerricher State Park on SR 1. Excavation and creation of wetlands at the Cleone site would fulfill the mitigation requirements for the ACOE. Monitoring will be done by a Caltrans biologist every first, third, and fifth year to ensure success. A conceptual mitigation plan will be completed and submitted to the ACOE during the verification process.

Coast Lily

Impacts to the coast lily are likely to occur as a result of the proposed project. ESA fencing will be placed around coast lilies outside of the immediate work area. Areas with the coast lily that cannot be avoided will require mitigation, which will likely minimize impacts to a level of insignificance.

Informal consultation is underway with the USFWS and the CDFG. Mitigation measures may include transplanting the bulbs and seedlings of the coast lily to the new shoulder on either side of the newly created ditch. The area will need to be maintained and mowed by Caltrans maintenance crews and ESA signs will be placed next to transplant area. No fill will be placed onto the new shoulders, leaving native soils for lilies to thrive. The maintenance of the new clear recovery zone will also help to create new habitat for the coast lily, as the lily grows in disturbed, mowed areas on the native soils of this area.

Visual Resources

There will be low to moderate impacts to the visual quality of SR 20 within the project area. Visual impacts will include the removal of existing vegetation including 300 to 400 trees, fencing and residential appurtenances. Impacts will be greater for residential and commercial buildings located within 10 m (33 ft) of the proposed edge of pavement line. Widening of the highway will improve sight distance for traffic on SR 20 and for vehicles entering the road from adjacent driveways and streets. The addition of bicycle lanes and shoulder backing for pedestrians will improve visibility of bicyclists and pedestrians by passing motorists while providing a visual cue that this section of highway is residential and traffic speeds should be adjusted accordingly. The following measures shall be taken to minimize visual impacts and improve the visual quality of the highway within the project area. They are as follows:

- Impacts to existing vegetation within the proposed Caltrans right of way should be minimized where possible. Preserving the 70 to 80 mature trees will help address this issue. Azaleas and Rhododendrons identified for removal during this project will be transplanted to non-impacted areas during clearing and grubbing.

- Removed yard appurtenances such as fencing, landscaping, mail boxes and driveways will be replaced in kind or the landowners will be compensated as part of the mitigation.
- Mitigation for removed trees on private property may include a monetary compensation for removed vegetation or Caltrans will replace the vegetation on private parcels adjacent to the proposed right of way. The project landscape architect will be responsible for working with the landowners in selecting plants and preparing the landscape design.
- Community involvement is necessary when designing context sensitive elements, which may include the entry signage treatment at the east and west end of town.
- The project landscape architect will be contacted during design phase of NPDES/stormwater features. Impacted riparian vegetation will be replaced in kind. There is a mitigation site on SR 1 north of Fort Bragg in the Cleone neighborhood.
- The project landscape architect and the project biologist will be involved when selecting aesthetic materials and textures included in traffic calming elements.

Executive Order 13186 Migratory Bird Treaty Act

Much of the closed coned coniferous forest within the project area may provide nesting habitat for raptors and other migratory birds. Accidental take of migratory birds during tree removal would be a violation of the Migratory Bird Treaty Act as well as the California Fish and Game Code. Trees that need to be removed should be done between August 1st and January 31, if possible. If tree removal is done from February 1st to July 31st, then a qualified Caltrans biologist must perform a pre-construction survey for nesting birds. If nests are detected, the removal of the nest tree must be avoided or proper authorization for take must be secured from the CDFG and/or USFWS.

Executive Order 13112: Control of Invasive Species

Two invasive exotic plants, the French broom and Scotch broom (*Genista monspessulana* and *Cytisus scoparius)* were identified throughout the project site, and are considered noxious weeds by the Federal Department of Food and Agriculture (FDFA). Executive Order 13112 requires any federal agency action to combat the introduction or spread of invasive species in the United States.

The proposed revegetation measures for all disturbed soils, including the use of native species, soil amendments, and “weed free” mulch, will reduce the risk of introducing noxious weeds. The contract specifications for permanent erosion control will require the use of California native forb and grass species, from the same elevation and geographic area as the project site. All areas disturbed by construction will be treated with a seed mix comprised of local native grasses and forbes. Soils will be amended with compost containing long-term soil nutrients and slow-release organic fertilizers to provide nutrients over the first year. Mulches used on the project will be from source materials that will not introduce exotic species. No wheat or barley straw will be used on the project because of the potential to introduce weeds. Rice straw may be used in non-wetland areas. In wetland areas, only native grass straw will be used.

Special Provision for Sudden Oak Death Syndrome

Sudden Oak Death (SOD) is a disease caused by a fungus like pathogen *Phytophthora ramorum*, recently identified by UC scientists. Since its appearance in 1995, SOD has killed tens of thousands of coast live oak, black oak, tanoak, and Shreve oak in northern California. It can also infect leaves and branches of rhododendron, buckeye, madrone, manzanita, bigleaf maple, bay laurel, and evergreen huckleberry. SOD has been found as far north as Mendocino County and as far south as Big Sur in Monterey County. To date, SOD has been identified in 10 California counties (California Oak Mortality, 2003).

Preventing the movement of infected leaves, wood and soil is critical to slowing the spread of the fungus to other oak woodlands. Plant material and soil should not be moved from coastal areas. Any trees less than 100 mm (3.9 in) in diameter needs to be left on site, or disposed of at an approved landfill, or chipped and spread on site. Wood 100 mm (3.9 in) and greater in diameter can be moved to another county with a Compliance Agreement issued from the county. Construction workers should wash equipment well and should avoid movement of dirt from one place to another.

Noise

During the construction phases of the proposed project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction noise is regulated by Caltrans' standard specifications Section 7-1.01I, "Sound Control Requirements". These requirements state that noise levels generated during construction shall comply with applicable local, state, and federal regulations, and that all equipment shall be fitted with adequate mufflers according to the manufacturers' specifications.

Chapter 4 Comments and Coordination

4.1 Agency Coordination

The following agencies were consulted regarding the proposed project:

- U.S. Fish and Wildlife Service
- California Department of Fish and Game
- Bureau of Land Management
- Jackson State Forest, California Department of Forestry
- U.S. Army Corps of Engineers
- Mendocino County
- Mendocino County Historical Society
- Native American Heritage Commission
- California State Historic Preservation Officer

The following permits will be obtained by the Office of Environmental Management (District 3):

- Section 404 (Clean Water Act) Permit - U.S. Army Corps of Engineers
- Section 401 (Clean Water Act) Water Quality Certification - Regional Water Quality Control Board
- Coastal Development Permit – Mendocino County Coastal Development Commission

4.2 Public Interaction and Comments

Caltrans held two open house meetings at the Fort Bragg Town Hall, one during the Project Study Report stage (June 26, 2001) and one during the Draft Project Report stage (October 8, 2002). Caltrans sent a newsletter in the fall 2002 to more than 100 property owners potentially affected by the project to notify them of the project and to invite them to participate in project discussion. In addition, a letter was sent to all property owners potentially affected by the project informing them of the project and including comment cards for their reply. Forty-seven participants attended the first open house and 41 participants attended the second open house. The overwhelming majority of the comments received (a total of 71) were in favor of the safety improvements for SR 20 proposed in this project.

Caltrans also met with the Mendocino County Planning Department on November 17, 2002, and Mendocino County Department of Transportation and the City of Fort Bragg Public Works Department on August 7, 2002.

Caltrans circulated the draft environmental document from December 15, 2003, through January 30, 2004, and held a public open house in Fort Bragg in January 2004. Approximately 50 people attended the open house meeting. Comments received during the open house and comment period have been addressed and Caltrans' responses to comments are included in Appendix C.

Chapter 5 List of Preparers

This document was prepared by the California Department of Transportation (Caltrans), North Region Office of Environmental Management. The following staff prepared this document:

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